



POLYCLONAL ANTIBODY

For research use only, Not for diagnostic use

Catalog No. TIP-PTD-P07

Anti phospho TDP-43 (pS409/410)**BACKGROUND**

TDP-43, a heterogeneous nuclear ribonucleoprotein, was identified as a component of ubiquitin-positive and tau-negative inclusions observed in cases of frontotemporal lobar degeneration (FTLD-U) and amyotrophic lateral sclerosis (ALS). Immunohistochemical analyses using antibodies generated against phospho- and non-phosphopeptides of human TDP-43 revealed that abnormally phosphorylated full-length TDP-43 (45 kDa), C-terminal fragments (~25 kDa) and smearing substances are deposited as intracellular inclusions in affected regions of FTLD-U and ALS cases.

These antibodies are powerful tools for biochemical and immunohistochemical analyses of neurodegenerative diseases and for evaluation of cellular or animal models of TDP-43 proteinopathy.

Product type	Primary antibody
Immunogen	CMDSKS(p)S(p)GWGM, S(p):phosphoserine 409/410
Raised in	Rabbit
Myeloma	-
Clone number	-
Isotype	-
Source	Serum
Purification	ammonium sulfate precipitation
Form	Liquid containing 50% glycerol and 0.05% NaN ₃ .
Concentration	-
Volume	100 µl
Label	Unlabeled
Specificity	Phospho TDP-43
Cross reactivity	Human
Storage	Store below -20°C. (below -70°C for prolonged storage). Aliquot to avoid cycles of freeze/thaw.

**Application notes
Recommended
dilutions**

- **Western blotting:** 1/1000 - 1/3000
- **Immunohistochemistry:** 1/1000 - 1/5000
- **ELISA:** 1/1000 - 1/5000

Other applications have not been tested.

Optimal dilutions/concentrations should be determined by the end user.

References

- 1) Hasegawa M, Arai T, Nonaka T, Kametani F, Yoshida M, Hashizume Y, Beach TG, Buratti E, Baralle F, Morita M, Nakano I, Oda T, Tsuchiya K, Akiyama H. Phosphorylated TDP-43 in frontotemporal lobar degeneration and amyotrophic lateral sclerosis. *Ann Neurol.* 2008 Jun 10;64(1):60-70. PubMed: [18546284](https://pubmed.ncbi.nlm.nih.gov/18546284/)

ANTIBODY CHARACTERIZATION

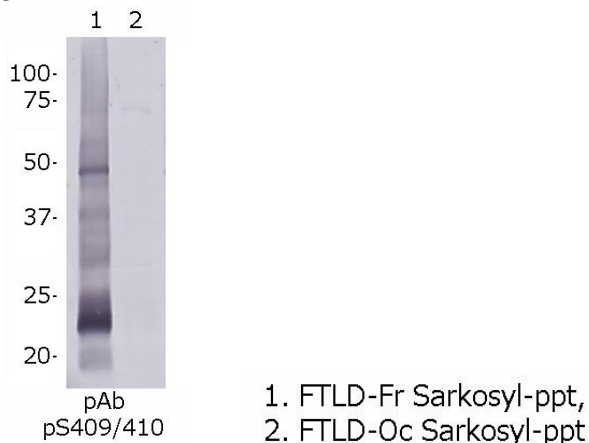


Figure 1 Immunoblot analyses with pAb pS409/410

Sarkosyl-insoluble fractions prepared from frontal lobe (Lane 1) and occipital lobe of a FTLN case (type C) were immunoblotted with this antibody (1/1000 dilution). Phosphorylated full-length TDP-43 at 45 kDa, 18~25 kDa C-terminal fragments were detected in the sample prepared from frontal lobe.

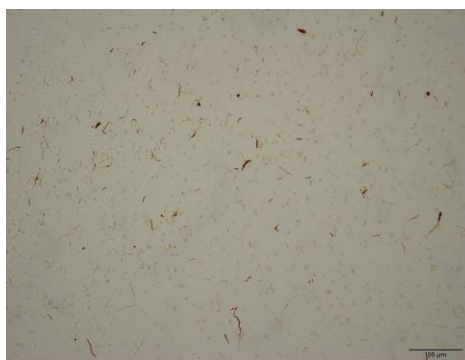


Figure 2 Immunohistochemistry of TDP-43 lesions.

An example of immunostainings of paraffin section (FTLN type C case) with this pAb pS409/410 is shown. Pathological phosphorylated TDP-43 accumulated in long dystrophic neurites, which are characteristic for the FTLN type C, were labeled with this antibody. Normal TDP-43 proteins localized in nuclei were not stained. The other pathological TDP-43 inclusions in the other types of FTLN were also recognized.

RELATED PRODUCTS:

Product Name	Quantity	Maker	Cat#
Anti TDP-43, phospho Ser409/410 (clone:11-9) Monoclonal Antibody	50 uL	CAC	TIP-PTD-M01
Anti TDP-43, phospho Ser409 Polyclonal Antibody	100 uL	CAC	TIP-PTD-P03
Anti TDP-43, phospho Ser410 Polyclonal Antibody	100 uL	CAC	TIP-PTD-P04
Anti TDP-43 N-terminus(3-12) Polyclonal Antibody	100 uL	CAC	TIP-TD-P07
Anti TDP-43 C-terminus(405-414) Polyclonal Antibody	100 uL	CAC	TIP-TD-P09

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